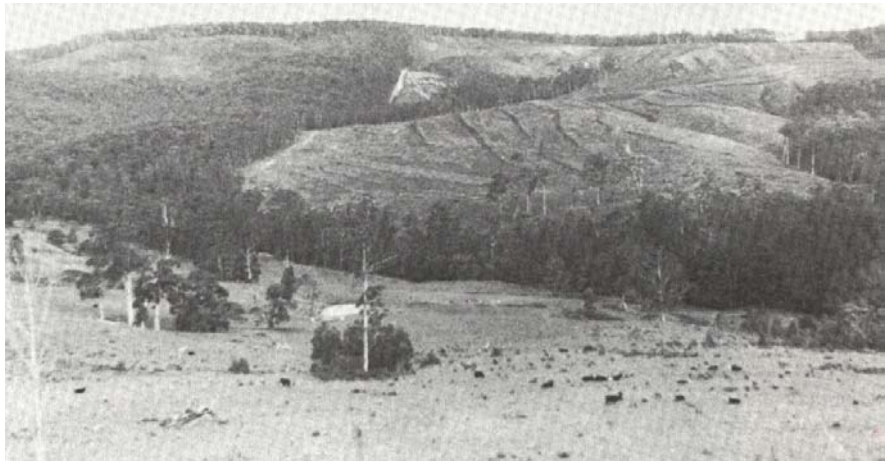
7.10 Bunker Hill Land System

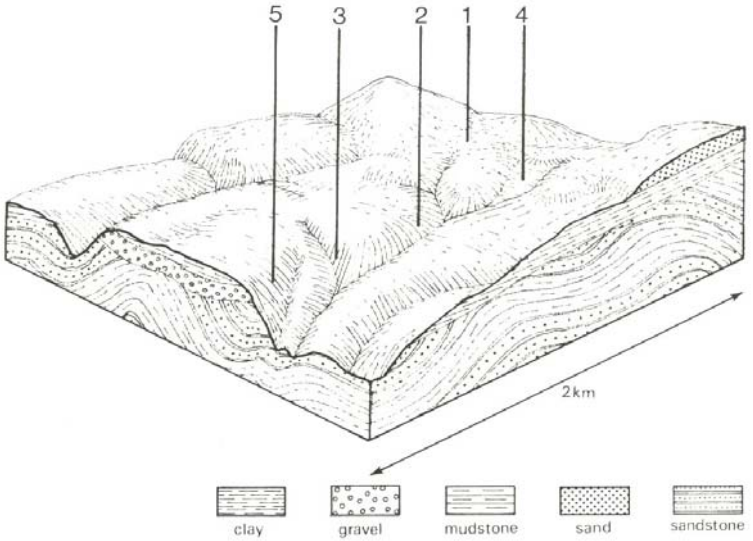
Deeply dissected hills north and west of Gellibrand possess Tertiary sands and clays on the higher parts of the landscape and outcrops of Cretaceous sediments on the steeper and lower parts. The soils become heavier and more fertile on the Cretaceous sediments and this is reflected in the occurrence of *Eucalyptus obliqua* and *E. viminalis* open forests with dense understoreys.

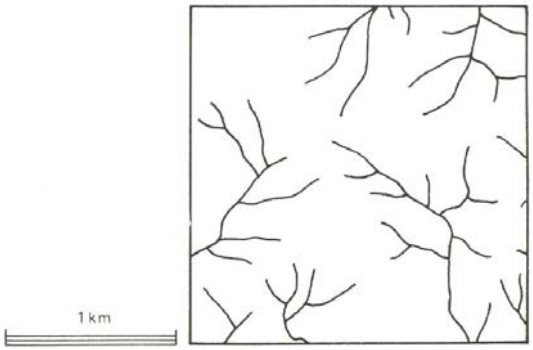
Most areas are too steep for agriculture, and remain forested with native hardwoods or pines. Clearing operations necessary for pine conversion and hardwood harvesting may result in severe scour gullying and landslips on the steep parts of the landscape.

Access tracks are difficult to site and prone to scouring. In general, careful management is required.



The steep land and irregular nature of the terrain makes these areas difficult to manage.





BUNKER HILL Area: 41 km^2	Component and its proportion of land system				
	1 25%	2 20%	3 40%	4 9%	5 6%
CLIMATE Rainfall, mm Temperature, 0^{o}C Seasonal growth limitations	**Annual**: 900 – 1,050, lowest January (45), highest August (130) **Annual**: 12, lowest July (7), highest February (18) **Temperature**: less than 10^{o}C (av.) June – August **Precipitation**: less than potential evapotranspiration early November – late March				
GEOLOGY Age, lithology	Palaeocene unconsolidated sand, silt and clay		Lower Cretaceous sandstone and mudstone	Palaeocene unconsolidated sand, silt and clay	
TOPOGRAPHY Landscape Elevation, m Local relief, m Drainage pattern Drainage density, km/km^2 Land form	Deeply dissected hills abutting the Gellibrand River to the west of Love Creek 60 – 290 95 Dendritic with some radial areas 3.2 Hill				
Land form element Slope (and range), % Slope shape	Crests, upper slope 20 (5-35) Convex	Slope 30 (20-35) Convex	Steep lower slope 45 (30-65) Linear	Gentle slope 15 (4-20) Concave	Crest, upper slope 13 (1-20) Convex
NATIVE VEGETATION Structure Dominant species	Woodland *E. nitida, E. radiata, E. baxteri*	Open forest *E. baxteri, E. obliqua*	Open forest *E. obliqua, E. ovata, E. viminalis, E. aromaphloia*, on southern aspect *E. cypellocarpa*	Low woodland *E. nitida, E. ovata, E. baxteri*	Woodland *E. radiata, E. baxteri, E. nitida, E. obliqua*
SOIL Parent material	Sand	Sand, silt and clay	In-site weathered rock	Sand	Quartz gravel, some clay, sand and silt
Description	Grey sand soils, uniform texture	Yellow gradational soils, weak structure	Brown gradational soils	Grey sand soils with hardpans, uniform texture	Stony yellow gradational soils
Surface texture Permeability Depth, m	Loamy sand Very high >2	Sandy loam High >2	Loam Moderate 0.9	Loamy sand Very low 0.5	Loamy sand Very high >2
LAND USE	**Uncleared areas:** Hardwood forestry for posts and poles, some sawlogs on better soils; nature conservation; water supply; gravel extraction; softwood plantations **Cleared areas:** Beef cattle and sheep grazing on mainly unimproved pastures; water supply				
SOIL DETERIORATION HAZARD Critical land features, processes, forms	Low inherent fertility and high permeability lead to leaching and nutrient decline. When disturbed and compacted, steeper slopes are prone to erosion (scouring).	Low inherent fertility and high permeability lead to nutrient decline. Weakly structured surface soils are prone to sheet erosion on steeper slopes.	Steeper slopes are prone to sheet and rill erosion. Clay subsoils subject to periodic saturation are prone to landslips	Low inherent fertility leads to nutrient decline. Hardpans restrict vertical drainage leading to seasonal waterlogging.	Very low inherent fertility and high permeability lead to leaching and nutrient decline.